



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/049,322

07/17/2002

Lutz Axel May

6770-6

3581

4897

7590

07/29/2004

ROBERT C. KAIN, JR.  
750 SOUTHEAST THIRD AVENUE  
SUITE 100  
FT LAUDERDALE, FL 333161153

EXAMINER

MILLER, TAKISHA S


ART UNIT

PAPER NUMBER

2855

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/049,322	<b>Applicant(s)</b> MAY, LUTZ AXEL 	
	<b>Examiner</b> Takisha Miller	<b>Art Unit</b> 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24, 26, 27, 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24, 26, 27, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of: \_\_\_\_\_
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED Final ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12 and 15-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (6,513,395) in view of Goddijn (4,206,374).

- a. With respect to claims 1 and 6, Jones teaches a transducer element for a torque or force transducer comprising a member (2) having a structure (6,10,12) which extends generally radially of an axis to transmit a stress between a radially inner region (6) of the structure (6,10,12) and a radially outer region (12), and at least one region (10) of permanent magnetization disposed between said inner (6) and outer (12) regions to be responsive to the transmitted stress and emanate a stress-dependent magnetic field (Col. 3, lines 43-50). Jones lacks teaching the at least one region of permanent magnetization is predominantly axially magnetized. Goddijn teaches at least one region (14) of permanent magnetization that is predominantly axially magnetized (Fig.1)(Abstract, lines 7-10. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jones to include a

Art Unit: 2855

predominantly axially magnetized region of permanent magnetization as taught by Goddijn in order to accurately enhance the measuring possibilities of the torque transducer.

b. With respect to claim 2, Jones teaches a transducer element in which there are two magnetized regions (26,28), a radially inner region (6) and a radially outer region (12) between which a stress-dependent field is established (Col.4, lines 14-17)(Fig.3).

c. With respect to claim 3, Jones teaches a transducer element in which the or each region (26,28) of permanent magnetization is arcuate (having a curved form) with respect to said axis (Fig.3).

d. With respect to claim 4, the shape of the region of permanent magnetization, i.e., interrupted annulus, absent any criticality, are only considered to be obvious modifications of the shape of the region of permanent magnetization (10) disclosed by Jones as the courts have held that a change in shape or configuration, without any criticality, is within the level of skill in the art as the particular shape claimed by Applicant is nothing more than one of numerous shapes that a person having ordinary skill in the art will find obvious to provide using routine experimentation based on its suitability for the intended use of the invention. See In re Dailey, 149 USPQ 47 ( CCPA 1976 ).

e. With respect to claims 5 and 23, Jones teaches a transducer element in which the or each region (26,28) of permanent magnetization is annular (shaped like a ring) and encircle said axis (Fig. 3).

f. With respect to claims 7 and 18, Jones teaches a transducer element in which said member (2) has a generally disc structure (Fig.4; Col. 8, lines 14-17).

Art Unit: 2855

g. With respect to claims 8,10,12 and 22, Jones teaches a transducer element in which there are two regions (26,28) of permanent magnetization, each being magnetized in an axial direction and the polarities of magnetization of the two regions (26,28) being opposite (Col. 4, lines 31-33).

h. With respect to claims 9 and 11, Jones teaches a transducer element comprising a means to close a flux path between the two regions (Col. 6, line 64 – Col. 7, line 6).

i. With respect to claims 15-17, Jones teaches a transducer system comprising a transducer element which is subjected to stress generated between said radially inner and outer regions of said structure through said at least one magnetized region (26,28) to emanate a torque-dependent magnetic field, and a sensor system comprising one or more magnetic field sensors (16) to provide a signal representing the stress generated between one and the other of said radially inner and outer regions (Col.6, lines 55-60).

j. With respect to claim 19, Jones teaches a transducer system in which said one or more magnetic field sensors (6) is disposed and oriented to detect a circumferential magnetic field component and provide a signal representing the same (Col. 6, lines 55-60).

k. With respect to claim 20, Jones teaches a transducer system in which said one or more magnetic field sensors (20) is disposed and oriented to detect a radial magnetic field component and provide a signal representing the same (Col. 7, lines 20-35).

l. With respect to claim 21, Jones teaches a transducer system further comprising signal processing circuitry responsive to said signals representing the circumferential magnetic component and the radial magnetic field, respectively (Col. 7, lines 9-14).

m. With respect to claims 24 and 26, Jones teaches a torque or force transducer

Art Unit: 2855

assembly comprising first (6) and second (12) members coaxially disposed, said first (6) member being of greater diameter than said second member (12), a disc-shaped member (10) extending generally radially of said axis and connecting said first member (6) to said second member (12) for transmitting force from one member to the other. The disc-shaped member (10) comprising two magnetized annular regions (26,28) that are at least arcuate or annular or are part annular (Figs. 1,3).

n. With respect to claim 27, Jones teaches a transducer assembly which is adapted to transmit torque from one of said members to the other (Abstract, lines 10-14).

o. With respect to claims 29 and 30, Jones teaches Jones teaches a transducer assembly comprising first (6) and second (12) members mounted to cause flexing of a disc-shaped member (10) in response to a relative displacement of said first and second members (Col. 3, lines 18-28).

4. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (6,513,395) in view of Goddijn (4,206,374) as applied to claim 1 above and further in view of Goldowsky (4,379,598).

a. With respect to claims 13 and 14, Jones in view of Goddijn teach a transducer element comprising a single region of magnetization (23) but lacks teaching the single region of magnetization extending obliquely to an axis. Goldowsky teaches a single region of magnetization (16,22) extending obliquely to an axis (Fig. 1). It would have been obvious to one of ordinary skill in the art to modify Jones in view of Goddijn to include a single region of magnetization extending obliquely to an axis as taught by

Art Unit: 2855

Goldowsky in order to have larger diameters at one end than the other to resist axial forces (see Goldowsky; Col. 1, lines 35-40).

*Conclusion*

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Takisha Miller whose telephone number is (571) 272-2184. The examiner can normally be reached on Monday - Friday (7:00 am - 3:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2855

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EDWARD LEFKOWITZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800